Forest Health Protection 2014 Pest Alert
USDA Forest Service, Lake Tahoe Basin Management Unit

Jeffrey Pine Needle Miner in Al Tahoe neighborhood,
South Lake Tahoe, California

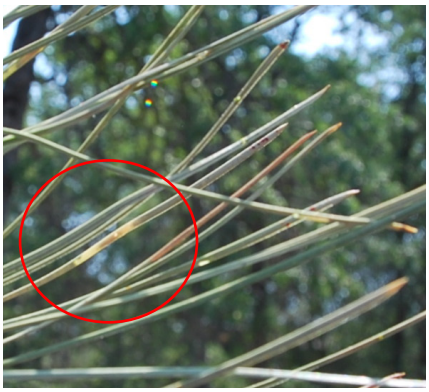
A small neighborhood in South Lake Tahoe is currently experiencing the first recorded outbreak of Jeffrey pine needle miner (*Coleotechnites* near *milleri*) in the Basin. This is a native insect which is expected to occur wherever Jeffrey pines occur thereby this infestation is not surprising. However, there has never been any recording of heightened or even noticeable activity of this insect anywhere around the Lake. Past studies of this insect were conducted in southern California in the 1970's; since then, no other outbreaks have been observed.

Red needles on infested Jeffrey pine. Note green healthy tree in background.

Symptoms of the needle miner look very similar to *Elytroderma* needle disease (examples of which can be seen at Taylor Creek Visitor Center) which simply look like red unhealthy trees on the verge of collapse. As the name implies, this very small insect mines through the middle of pine needles causing needles to die back, turning yellow and red. Holding branches up to light can confirm presence of transparent spots on needles where the miner has hollowed it out. Trees appear to have a red halo since needle tips are primarily affected (See Figure 1). Feeding of insects are scattered in the crown but confined to older needles, not current year's growth. While trees look unwell, they are not dead unless ***all*** needles turn red. Infected trees may shed damaged needles causing tree crowns to look thin, but trees should recover in the following years.

Little is known about this insect but it's closely related to a native needle miner on lodgepole known in Yosemite National Park. Lodgepole miner does not cause high mortality, but long-term defoliation will reduce growth and vigor, making infested trees susceptible to other damaging agents. The close similarity of these two species has shown their habits to be comparable as well. Natural biocontrol agents exist and should control populations within a few years.

Recent drought conditions most likely have contributed to needle miner populations, creating water stress on trees which in turn reduces defense mechanisms against pests. But feeding intensity also appears selective on particular trees – some have no red at all standing next to completely damaged trees. Therefore, watering may not revive infested trees since this may be genetic selection of susceptible individuals. Homeowners should continue to monitor trees in the neighborhood and inform local foresters if tree mortality occurs.



Close-up of infested needles. Note clear discolored spots in the middle of needles.

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